Listing of Claims:

1. (Previously Presented) An ultrasonic medical device comprising:

an ultrasonic probe comprising a proximal end, a distal end and a longitudinal axis therebetween; and

a transducer coupled to the ultrasonic probe, the transducer being configured to create a torsional vibration along the ultrasonic probe, the ultrasonic probe and the transducer being adapted so that the torsional vibration induces a transverse vibration along a portion of the ultrasonic probe.

2. (Cancelled)

3. (Previously Presented) The ultrasonic medical device of claim 1 wherein the portion of the ultrasonic probe along which the transverse vibration is induced extends along at least a portion of the longitudinal axis of the ultrasonic probe.

4. (Original) The ultrasonic medical device of claim 1 wherein tension to the ultrasonic probe tunes the transverse vibration into coincidence with the torsional vibration.

5. (Original) The ultrasonic medical device of claim 1 wherein bending the ultrasonic probe tunes the transverse vibration into coincidence with the torsional vibration.

6. (Original) The ultrasonic medical device of claim 1 wherein bending the ultrasonic probe shifts a frequency of the ultrasonic probe causing the transverse vibration to coincide with the torsional vibration.

7. (Previously Presented) The ultrasonic medical device of claim 1 wherein the torsional vibration and the transverse vibration are superimposed along the portion of the ultrasonic probe along which the transverse vibration is induced.

8. (Previously Presented) The ultrasonic medical device of claim 1 wherein the torsional vibration and the transverse vibration are segregated along the ultrasonic probe.

9. (Previously Presented) The ultrasonic medical device of claim 1 wherein the torsional vibration of the ultrasonic probe produces a plurality of torsional nodes and a plurality of torsional anti-nodes along at least the portion of the ultrasonic probe along which the transverse vibration is induced.

10. (Previously Presented) The ultrasonic medical device of claim 1 wherein the torsional vibration of the ultrasonic probe causes a rotation and counterrotation along at least the portion of the ultrasonic probe along which the transverse vibration is induced.

11. (Previously Presented) The ultrasonic medical device of claim 1 wherein the torsional vibration of the ultrasonic probe is propagated in a forward direction and a reverse direction about a plurality of nodes along at least the portion of the ultrasonic probe along which the transverse vibration is induced.

12. (Previously Presented) The ultrasonic medical device of claim 1 wherein, during use, the torsional vibration and the transverse vibration generate acoustic energy in a medium surrounding the ultrasonic probe through an interaction of a surface of the ultrasonic probe and the medium surrounding the ultrasonic probe.

13. (Previously Presented) The ultrasonic medical device of claim 1 wherein the transverse vibration of the ultrasonic probe produces a plurality of transverse nodes and a plurality of transverse anti-nodes along at least the portion of the ultrasonic probe along which the transverse vibration is induced.

14. (Previously Presented) The ultrasonic medical device of claim 1 wherein, during use, the torsional vibration generates acoustic energy in a medium surrounding the ultrasonic probe.

15. (Previously Presented) The ultrasonic medical device of claim 1 wherein, during use, the transverse vibration generates acoustic energy in a medium surrounding the ultrasonic probe.

16. (Previously Presented) The ultrasonic medical device of claim 1 further comprising an acoustic assembly configured to deliver ultrasonic energy in a frequency range from about 10 kHz to about 100 kHz.

17. (Previously Presented) The ultrasonic medical device of claim 1 further comprising an energy source configured to determine a resonant frequency of the transducer and to provide electrical energy to the transducer at the resonant frequency of the transducer.

18. (Original) The ultrasonic medical device of claim 1 wherein the ultrasonic probe has a flexibility allowing the ultrasonic probe to support the torsional vibration and the transverse vibration.

19. (Previously Presented) The ultrasonic medical device of claim 1 wherein the ultrasonic probe has an approximately circular cross section from the proximal end of the ultrasonic probe to the distal end of the ultrasonic probe.

20. (Previously Presented) The ultrasonic medical device of claim 1 wherein the ultrasonic probe has a varying diameter from the proximal end of the ultrasonic probe to the distal end of the ultrasonic probe.

21. (Previously Presented) The ultrasonic medical device of claim 1 wherein a portion of the ultrasonic probe has a radially asymmetric cross section.

22. (Previously Presented) The ultrasonic medical device of claim 1 wherein the ultrasonic probe has a substantially uniform cross section from the proximal end of the ultrasonic probe to the distal end of the ultrasonic probe.

23. (Previously Presented) The ultrasonic medical device of claim 1 wherein the ultrasonic probe has a varying cross section from the proximal end of the ultrasonic probe to the distal end of the ultrasonic probe.

24. (Previously Presented) A medical device comprising:

an elongated, flexible probe comprising a proximal end, a distal end and a longitudinal axis between the proximal end and the distal end;

a transducer coupled to the elongated, flexible probe, the transducer being configured to create a torsional vibration along the longitudinal axis of the elongated, flexible probe when electrical energy is applied to the transducer, the elongate, flexible probe and the transducer being adapted so that the torsional vibration induces a transverse vibration along the longitudinal axis of the elongated, flexible probe.

25. (Cancelled)

26. (Original) The medical device of claim 24 wherein at least a portion of the longitudinal axis of the elongated, flexible probe supports the torsional vibration and the transverse vibration.

27. (Original) The medical device of claim 24 wherein tension to the elongated, flexible probe tunes the transverse vibration into coincidence with the torsional vibration.

28. (Previously Presented) The medical device of claim 24 wherein the torsional vibration and the transverse vibration are superimposed along the longitudinal axis of the elongated, flexible probe.

29. (Previously Presented) The medical device of claim 24 wherein the torsional vibration and the transverse vibration are segregated along the longitudinal axis of the elongated, flexible probe.

30. (Previously Presented) The medical device of claim 24 wherein the elongated, flexible probe has a substantially uniform diameter from the proximal end of the elongated, flexible probe to the distal end of the elongated, flexible probe.

31. (Previously Presented) The medical device of claim 24 wherein the elongated, flexible probe has a varying diameter from the proximal end of the elongated, flexible probe to the distal end of the elongated, flexible probe.

32. (Original) The medical device of claim 24 wherein the elongated, flexible probe is disposable.

33. (Previously Presented) The medical device of claim 24 wherein the elongated, flexible probe is constructed for a single use on a single patient.

34. (Previously Presented) A method comprising:

moving an ultrasonic probe to a treatment site in a body such that the ultrasonic probe is in communication with a biological material; and

producing a torsional vibration along the ultrasonic probe, the torsional vibration inducing a transverse vibration in a portion of the ultrasonic probe.

35. (Cancelled)

36. (Previously Presented) The method of claim 34 wherein the portion of the ultrasonic probe in which the transverse vibration is induced supports the torsional vibration and the transverse vibration.

37. (Previously Presented) The method of claim 34 further comprising tuning the transverse vibration into coincidence with the torsional vibration along the portion of the ultrasonic probe in which the transverse vibration is induced.

38. (Original) The method of claim 34 further comprising applying a tension to the ultrasonic probe to tune the transverse vibration into coincidence with the torsional vibration.

39. (Original) The method of claim 34 further comprising bending the ultrasonic probe to tune the transverse vibration into coincidence with the torsional vibration.

40. (Previously Presented) The method of claim 34 further comprising superimposing the torsional vibration and the transverse vibration along the portion of the ultrasonic probe in which the transverse vibration is induced.

41. (Previously Presented) The method of claim 34 further comprising segregating the torsional vibration and the transverse vibration along the ultrasonic probe.

42. (Previously Presented) The method of claim 34 wherein the torsional vibration is produced by a transducer coupled to the ultrasonic probe.

43. (Previously Presented) The method of claim 34 further comprising generating acoustic energy in a medium surrounding the ultrasonic probe through an interaction of a surface of the ultrasonic probe and the medium surrounding the ultrasonic probe resulting from the torsional vibration and the transverse vibration.

44. (Previously Presented) The method of claim 34 further comprising producing a plurality of nodes and a plurality of anti-nodes along at least the portion of the ultrasonic probe in which the transverse vibration is induced.

45. (Previously Presented) The method of claim 34 further comprising producing a plurality of transverse nodes and a plurality of transverse anti-nodes along at least the portion of the ultrasonic probe in which the transverse vibration is induced.

46. (Previously Presented) The method of claim 34 further comprising producing a rotation and counterrotation of the ultrasonic probe along at least the portion of the ultrasonic probe in which the transverse vibration is induced.

47. (Original) The method of claim 34 further comprising projecting the torsional vibration in a forward direction and a reverse direction about a plurality of nodes of the ultrasonic probe.

48. (Previously Presented) The method of claim 34 further comprising sweeping the ultrasonic probe along the treatment site.

49. (Previously Presented) The method of claim 34 further comprising moving the ultrasonic probe back and forth along the treatment site.

50. (Previously Presented) The method of claim 34 further comprising rotating the ultrasonic probe along the treatment site.

51. (Previously Presented) The method of claim 34 further comprising delivering ultrasonic energy to the ultrasonic probe in a frequency range from about 10 kHz to about 100 kHz.

52. (Previously Presented) The method of claim 42 further comprising determining a resonant frequency of the transducer and providing electrical energy to the transducer at the resonant frequency of the transducer.

53. (Original) The method of claim 34 further comprising providing the ultrasonic probe having a flexibility allowing the ultrasonic probe to support the torsional vibration and the transverse vibration.

54. (Previously Presented) The method of claim 34 wherein the portion in which the transverse vibration is induced extends along at least a portion of the longitudinal axis of the ultrasonic probe.

55. (Previously Presented) A method comprising:

placing an ultrasonic probe in communication with a biological material in a body; and

activating an energy source to produce an electric signal that drives a transducer coupled to the ultrasonic probe to produce a torsional vibration along a portion of the flexible probe, the torsional vibration inducing a transverse vibration along the longitudinal axis of the flexible probe.

56. (Cancelled)

57. (Original) The method of claim 55 further comprising applying a tension to the flexible probe causing the transverse vibration to tune into coincidence with the torsional vibration.

58. (Original) The method of claim 55 further comprising bending the flexible probe causing the transverse vibration to tune into coincidence with the torsional vibration.

59. (Previously Presented) The method of claim 55 further comprising superimposing the torsional vibration and the transverse vibration along the longitudinal axis of the flexible probe.

60. (Previously Presented) The method of claim 55 further comprising segregating the torsional vibration and the transverse vibration along the longitudinal axis of the flexible probe.

61. (Original) The method of claim 55 further comprising generating acoustic energy in a medium surrounding the ultrasonic probe through an interaction of a surface of the ultrasonic probe and the medium surrounding the ultrasonic probe resulting from the torsional vibration and a transverse vibration.

62-74. (Cancelled)

75. (Previously Presented) The ultrasonic medical device of claim 1 wherein the ultrasonic probe has a first region having a first diameter and a second region having a second diameter that is smaller than the first diameter.

76. (Previously Presented) The ultrasonic medical device of claim 75 wherein the ultrasonic probe has a tapered transition between the first and second regions.

77. (Previously Presented) The ultrasonic medical device of claim 75 wherein the ultrasonic probe has a third region having a third diameter that is smaller than the second diameter.

78. (Previously Presented) The medical device of claim 24 wherein the elongate, flexible probe has a first region having a first diameter and a second region having a second diameter that is smaller than the first diameter.

79. (Previously Presented) The medical device of claim 78 wherein the elongate, flexible probe has a tapered transition between the first and second regions.

80. (Previously Presented) The medical device of claim 78 wherein the elongate, flexible probe has a third region having a third diameter that is smaller than the second diameter.

81. (Previously Presented) The method of claim 34 wherein the ultrasonic probe has a first region having a first diameter and a second region having a second diameter that is smaller than the first diameter.

82. (Previously Presented) The method of claim 81 wherein the ultrasonic probe has a tapered transition between the first and second regions.

83. (Previously Presented) The method of claim 81 wherein the ultrasonic probe has a third region having a third diameter that is smaller than the second diameter.

84. (Previously Presented) The method of claim 55 wherein the ultrasonic probe has a first region having a first diameter and a second region having a second diameter that is smaller than the first diameter.

85. (Previously Presented) The method of claim 84 wherein the ultrasonic probe has a tapered transition between the first and second regions.

86. (Previously Presented) The method of claim 84 wherein the ultrasonic probe has a third region having a third diameter that is smaller than the second diameter.